

# Radial Leaded High Power Resistors

## Type MPR Series

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This small size non-inductive, high power resistor is an innovative and significant first for Tyco Electronics. Occupying a standard T0220 package it is ideally suited to positions where high power dissipation, small size and tight tolerance are key design requirements.

This series is an ideal solution for the output side of high speed pulse generators, a surge absorption resistor in switch mode power supplies and for monitors, display terminals, scientific workstations and other brown and white goods.

### Key Features

- Small Size (T0220 Package)
- Easy to Mount
- Non Inductive
- High Frequency Range up to 300MHz
- Temperature Range -55°C to +155°C
- High Power 20W with Suitable Heatsink
- Voltage Proof 2000V dc
- Non Flammable

### Characteristics - Electrical

Resistance Range:	R22 - R91	1R0 - 9R1	10R - 51K
Resistance Tolerance:	5%	5%	1% / 5%
Temp. Coefficient of Resistance (TCR):	250ppm/°C	100ppm/°C	50ppm/°C
Rated Power (on Suitable Heatsink):	20 Watts		
Rated Power (W/O Heatsink):	2 Watts * (See note below)		
Equivalent Parallel Capacitance:	1.0 pF		
Maximum Operating Voltage:	500V dc		
Withstand Voltage:	2000 V dc (Between terminals and heatsink)		
Operating Temperature Range:	-55°C to +155°C		
Rated Ambient Temperature:	-25°C to +40°C		

\* With a 5.8°C watt heatsink or better at a 25°C ambient temperature, 20 watts can be dissipated  
A larger heatsink will allow the resistor to run at a lower temperature.

### Characteristics - Mechanical

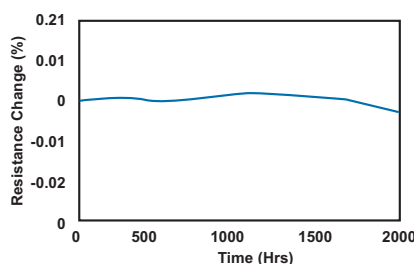
	Test Condition	Specification
Life (Rated Power):	40°C, rated power, 90 min-on, 30 min off, 1000 hours	$\Delta R \pm (1.0\% + 0.05 \text{ ohm})$
Life (Moisture Load):	60°C, 90 - 95% RH, rated power, 90 min ON 30 min OFF, 1000 hours	$\Delta R \pm (1.0\% + 0.05 \text{ ohm})$
Temperature Cycling:	Room temp > -55°C 30 min > RT, 10 min $\pm$ 120°C 30 min > RT 10 min, 5 cycles	$\Delta R \pm (0.25\% + 0.05 \text{ ohm})$
Short Time Overload:	Rated voltage x 2.5, 5sec	$\Delta R \pm (0.25\% + 0.05 \text{ ohm})$
Soldering Heat:	350°C solder pot, 3sec	$\Delta R \pm (1.0\% + 0.05 \text{ ohm})$
Insulation Resistance:	DC 100 V, 1 min	Over 1000M ohm
Vibration:	10 - 50 Hz, 1 min, 20G, X-Y-Z 1 hour	$\Delta R \pm (0.5\% + 0.05 \text{ ohm})$

### Power Derating Curve



### Load Life in High Temperature & Humidity

(70°C 95% DC Rated Power x 0.1) Continuous

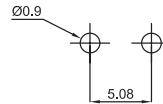


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### Dimensions



### PCB Piercing Plan



### How to Order

MPR	20	C	680R	J
<b>Common Part</b>	<b>Wattage Rating @ 25°C with Heatsink</b>	<b>Temp. Coefficient of Resistance</b>	<b>Resistance Value</b>	<b>Tolerance</b>
MPR - High Power Film Resistor	20 - 20 Watts	C - 50ppm/°C A - 100ppm/°C H - 250ppm/°C	0.1 ohm (100 milliohms) R10 1 ohm (1000 milliohms) 1R0 1K ohm (1000 ohms) 1K0	F - 1% J - 5%